Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) An electrosurgical generator for supplying radio frequency (RF) power to an electrosurgical instrument for cutting or vaporising tissue, wherein the generator comprises an RF output stage having:

at least one RF power device,

at least one pair of output lines for delivering RF power to the instrument, and

a series-resonant output network coupled between the RF power device and the said pair of output lines, and

protection circuitry responsive to a predetermined electrical condition indicative of an output current overload substantially to interrupt the RF power supplied to the output network, the protection circuitry being responsive to application of a short circuit across the output lines, the protection circuitry being responsive to the said short circuit sufficiently quickly to disable the RF power device before the current passing therethrough rises to a rated maximum current as a result of the short circuit,

wherein the output impedance of the output stage at the output lines is less than $200/\sqrt{P}$ ohms, where P is the maximum continuous RF output power of the generator in watts, and the protection circuitry is responsive to the application of a short circuit at the output lines with sufficient speed that the supply of RF power to the output network is interrupted within a time period corresponding to no more than 20 RF cycles of the delivered RF power.

2. (Canceled)

3. (Previously Presented) A generator according to claim 1, further comprising protection circuitry responsive to application of a short circuit across the output lines, and

wherein the series-resonant output network is such that the rate of rise of the output current at the output lines when the short circuit is applied is less than ($\sqrt{P}$)/4 amps per microsecond.

4. (Canceled)

5. (Previously Presented) A generator according to claim 1, wherein the power device is disabled in response to the application of the short circuit to the output lines, the disabling occurring in a time period corresponding to less than 3 RF cycles of the delivered RF power.

6. (Original) A generator according to claim 1, wherein the predetermined electrical condition is indicative of an instantaneous current in the output stage exceeding a predetermined level, and wherein the speed of response of the protection circuitry is such that the said condition is detected within the RF cycle during which the instantaneous current exceeds the said level.

7. (Original) A generator according to claim 1, including:

a power supply stage coupled to the RF output stage, the power supply including a charge-storing element for supplying power to the power device or devices and a voltage-sensing circuit arranged to sense the voltage supplied to the RF output stage by the charge-storing element; and

a pulsing circuit coupled to the voltage sensing circuit for pulsing the or each power device, the arrangement of the voltage sensing and pulsing circuits being such that the timing of the pulses is controlled in response to the sensed voltage.

8. (Original) A generator according to claim 7, wherein the voltage sensing circuit and the pulsing circuit are arranged to terminate individual pulses of RF energy delivered by the RF power device or devices when the sensed voltage falls below a predetermined level.

9. (Original) A generator according to claim 8, wherein the predetermined level is set such that the pulse termination occurs when the voltage falls by a predetermined percentage value of between 5 percent and 20 percent.

10. (Previously Presented) A generator according to claim 8, wherein the predetermined level is set such that pulse termination occurs when the peak RF voltage delivered at the output lines has fallen to a value of between 25V and 100V below its starting value for the respective pulse.

11. (Original) A generator according to claim 7, wherein the power supply and pulsing circuit are arranged to generate a pulsed RF output signal at the output terminals, which signal has a peak current of at least 1A, a simultaneous peak voltage of at least 300 V, a modulation rate of between 5Hz and 2kHz, and a pulse length of between 100μs and 5ms.

12. (Original) A generator according to claim 11, wherein the pulse length is between 0.5ms and 5ms.

13. (Original) A generator according to claim 11, wherein the pulse duty cycle is between 1% and 20%.

14. (Original) A generator according to claim 11, wherein the power supply and pulsing circuit are arranged to generate a pulsed RF output signal at the output terminals, which signal has a peak voltage of at least 300 V throughout the entire pulse length.

15. (Original) A generator according to claim 11, wherein the power supply and the pulsing circuit are arranged to generate, in an initial period, a pulsed RF output signal at the output terminals, which signal has a peak current of at least 1A, a simultaneous peak voltage of at least 300V, a modulation rate of between 5Hz and 2kHz, and a pulse length of between 100μs and 5ms, and, in a subsequent period, to generate a constant power RF output signal at the output terminals.

16. (Original) An electrosurgical generator according to claim 1, wherein the generator is for supplying radio frequency (RF) power to an electrosurgical instrument for cutting or vaporising tissue in wet field electrosurgery, and wherein the output impedance of the output stage at the output lines is less than 10 ohms.

17. (Original) An electrosurgical generator according to claim 1, wherein the generator is for supplying radio frequency (RF) power to an electrosurgical instrument for cutting or vaporising tissue in dry field electrosurgery, and wherein the output impedance of the output stage at the output lines is less than 50 ohms.

18. (Previously Presented) A generator according to claim 1, wherein the output impedance is less than $100/\sqrt{P}$ ohms.

19. (Canceled)

20. (Currently Amended) A generator according to ~~claim 19~~claim 1, wherein the time period corresponds to less than 3 cycles of the delivered RF power.

21. (Original) A generator according to claim 20, wherein the time period corresponds to less than 1 cycle of the delivered RF power.

22. (Original) A generator according to claim 1, having an RF source coupled to the power device, the source defining the operating frequency of the generator, wherein the series-resonant output network is tuned to the operating frequency.

23. (Original) A generator according to claim 22, wherein the source is arranged such that the operating frequency is substantially constant.

24. (Original) A generator according to claim 1, including protection circuitry which has a current sensing circuit including a pick-up arrangement coupled in series between the power device and the series-resonant output network, a comparator having a first input coupled to the pick-up arrangement and a second input coupled to a reference level source, and disabling circuitry coupled to an output of the comparator to disable the power device

when the comparator output changes state in response to the instantaneous current sensed by the pick-up arrangement exceeding the predetermined level as set by the reference level source.

25. (Original) A generator according to claim 1, wherein the protection circuitry includes a monostable stage and is operable, in response to detection of the said predetermined condition, to disable the power device for a limited period determined by a time constant of the monostable stage, the time constant corresponding to less than 20 cycles of the operating frequency of the generator.

26. (Previously Presented) A generator according to claim 1, arranged such that the RMS RF output voltage is substantially constant within a load impedance range of from $600/\sqrt{P}$ ohms to 1000 ohms where P is as defined hereinabove.

27. (Currently Amended) An electrosurgical generator for supplying radio frequency (RF) power to an electrosurgical instrument, wherein the generator comprises an RF output stage having at least one RF power device, at least one pair of output lines for delivering RF power to the instrument, and a series-resonant output network coupled between the RF power device and the output lines, the generator further comprising protection circuitry responsive to a short circuit across the output lines, wherein the output impedance of the output stage is less than $200/\sqrt{\text{~~Ö~~}}P$ ohms, where P is the maximum continuous RF output power of the generator in watts, and wherein the protection circuitry is responsive to the said short circuit sufficiently quickly to disable the power device before the current passing therethrough rises to a rated maximum current as a result of the short circuit,

wherein the protection circuitry is responsive to the application of a short circuit at the output lines with sufficient speed that the supply of RF power to the output network is interrupted within a time period corresponding to no more than 20 RF cycles of the delivered RF power.

28. (Original) A generator according to claim 27, wherein said at least one power device is disabled in response to application of the short circuit to the output lines, the disabling occurring in a time period corresponding to less than 3 RF cycles.

29-54. (Canceled)

55. (Previously Presented) A system according to claim 20, wherein the active electrode is formed as a conductive loop.